

SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE

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PURPOSE: To obtain stabilized superior characteristics of a large integrated circuit, particularly an analog/digital hybrid semiconductor device by a method wherein two transistors having different characteristics are realized on the same silicon substrate.

CONSTITUTION: A second N type collector buried layer 31 is diffused above a first N type collector buried layer 18 in a superimposed relation and the impurity density is selected to be higher as compared with that of an N type epitaxial layer 17, so that values of resistors 51, 52, 53 become small and a transistor 30 in a digital circuit section is completely clamped with a Schottky diode. A second P type base diffusion layer 32 is diffused into the same part as a first base diffusion layer 15 with both impurity density and diffusion depth of the layer 32 being selected greater than those of the layer 15. This permits the transistor 30 in the digital circuit section to have a small value of hFE. At this time, both diffusion layers 31 and 32 are present not in an analog section 20 but in the digital section 30 only, whereby characteristics of the transistor in the digital section can be improved without impairing characteristics of the transistor such as voltage resistance, hFE, etc.

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